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ABSTRACT

Provided is general information on the inservice components and the models of inservice delivery utilized by Project T.H.O.R. (Training Habilitators of the Retarded). The prevocational and socio/psychosexual components of the project are listed, and the following are outlined: rationale; relationship to other inservice components; objectives; materials, equipment, tools, and work aids; reading list; and program presentation. Also given is an explanation of statistical data from the project evaluation component. In addition, a paper titled "The Utilization of Jigs in Training Mentally Retarded Students" (R. Conant and P. Sammartino) is attached in which jigs are described as "a device or contrivance which enables a worker to perform a work operation more easily, faster and accurately; (and) may reduce cost of production." (SBH)

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Vocational and Career Education for the Handicapped:

Training the Classroom Teacher

Project T.H.O.R.

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Vocational and Career Education for the Handicapped:

Training the Classroom Teacher

Project T.H.O.R.

Inservice Training for Personnel Working with the Trainable Mentally Retarded

by

Edmund Coombe

Paper Presented at

55th Annual International Convention

The Council for Exceptional Children

Atlanta, Georgia

Training Habilitators of the Retarded

Project T.H.O.R.

Inservice Training for Personnel Working with the

Trainable Mentally Retarded

This paper deals with general information on the inservice componerts and the models of inservice delivery utilized by Project T.H.O.R. It also deals specifically with the evaluation component of the project. The following Information Sheet attempts to answer the most frequently asked questions about Project T.H.O.R.

Project T.H.O.R. Information Sheet

What is T.H.O.R.?

Training Habilitators of the Retarded (T.H.O.R.) is a state-wide inservice project supported by Bureau of Education for the Handicapped (B.E.H.) funds designed to offer instruction in the areas of pre/vocational and psycho-sexual programming for personnel working with trainable mentally retarded (T.M.R.) in schools throughout Pennsylvania.

Pre/Vocational Component

1. Curriculum Scope and Sequence - explores the structuring of curriculum to include pre/vocational and independence training through the use of task analysis and C.R.M. based instruction.

Socio/Psycho-Sexual Component

1. Simulation of Handicap - explores attitudes toward handicapped and offers activities which illustrate what it feels like to be handicapped.

2. World of Work - explores career education for the handicapped.
3. Job Analysis - instruction in completing job analyses utilizing industrial technology such as Methods-Time Measurement
4. Vocational Evaluation and Job Placement - explores various types of vocational evaluations leading to proper job placement.
5. Sheltered Workshops - on-site visit followed up by exploration of S.W.S. procedures including the use of jigs and fixtures for production.

2. Normalization - explores the expectations of adult living arrangements and mobility, and offers methods of assisting handicapped in meeting these expectations.
3. Sex Education - explores the social and sexual aspects of adult living and how to assist the handicapped to adjust to social expectations.
4. Para-Professionals and Ancillary Service Personnel - explores proper utilization of an invaluable asset.
5. Legislation - explores current legislation, its effects on handicapped and personnel working with handicapped.

What type of instruction will Project T.H.O.R. offer?

Criterion Reference Measurement (C.R.M.) based instruction will be the design of inservice programs. All personnel indicating competency in any area of inservice instruction will have the opportunity to demonstrate this competency by passing a pre-test. They will then receive credit for this area and will not need to attend sessions should

they choose. All other participating personnel will be post-tested for competency in the areas of instruction.

Who can participate in T.H.O.R.'s inservice programming?

All intermediate unit and cooperating school district personnel including teachers, para-professionals, supervisors, administrators and ancillary service providers working in programs for T.M.R. make up the primary target audience. However, most of the instructional areas are generalizable to other handicapped populations and personnel working with sensorially, motorically, emotionally and other intellectually or learning handicapped are welcome to participate.

How much inservice will Project T.H.O.R. offer?

Project T.H.O.R. is designed to offer variable credits (from 1 to 3) depending on the intermediate unit or school districts' individual needs. Each credit is equal to 15 clock hours of participation.

Will credit be offered for Project T.H.O.R.'s inservice?

Project T.H.O.R. has been approved by the State Inservice Council to offer through Intermediate Unit Inservice Councils up to 3 credits inservice.

In order to understand the geographic breakdown of the State of Pennsylvania's twenty-nine (29) Intermediate Units (I.U.'s) served by the project, please refer to Figure 1. Notice that seven (7) of the I.U.'s in the center of the state were served during the 1975-76 fiscal year; these seven (7) I.U.'s received training for more than 150 of their personnel. During the current fiscal year, 1976-77, Project T.H.O.R. is serving over 300 personnel in thirteen (13) of the I.U.'s,

Figure 1

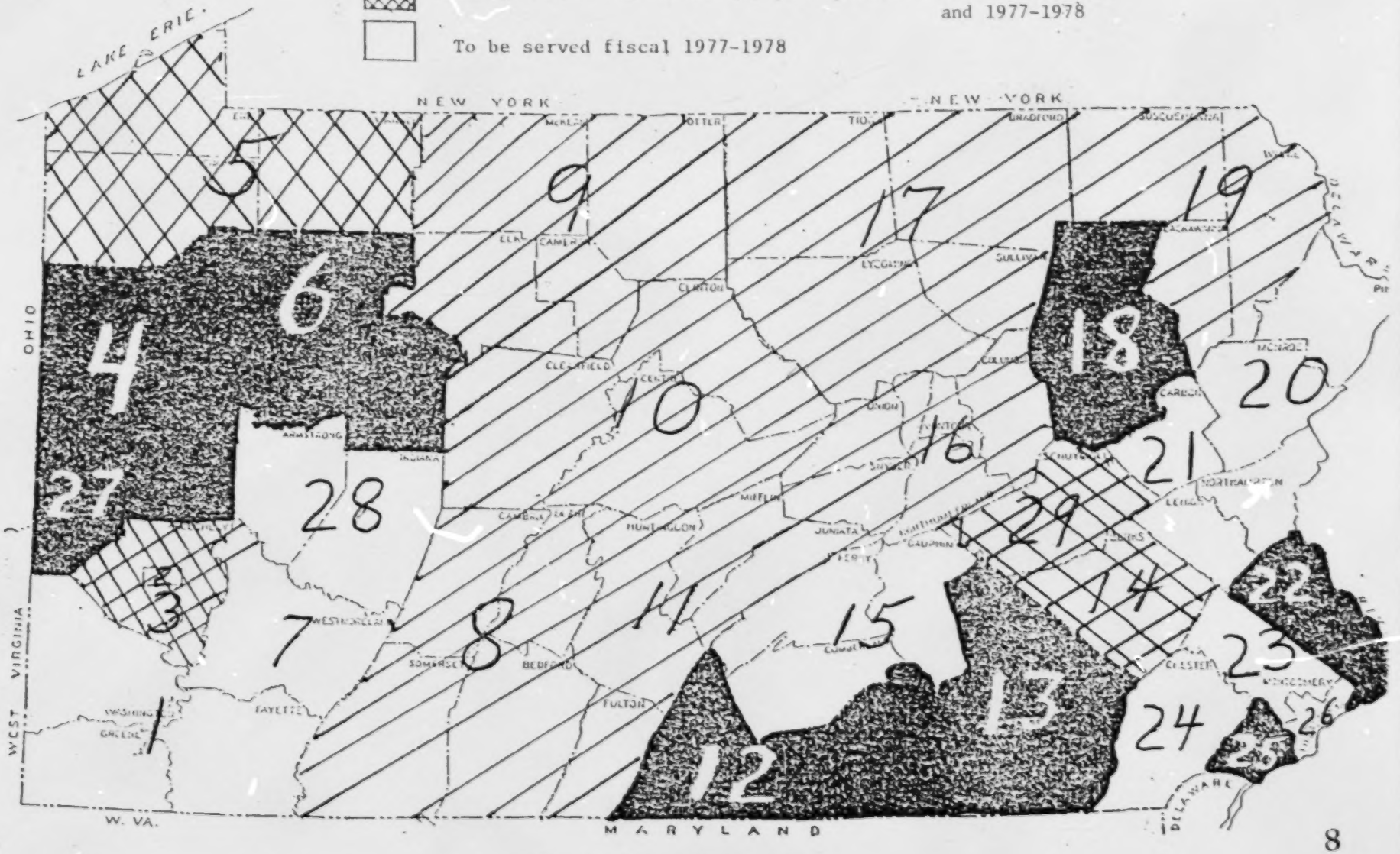
Project T.H.O.R. Participant
Intermediate Units

Served and completed fiscal 1975-1976

Being served and will be completed fiscal 1976-1977

Being served over a two (2) year period - fiscal 1976-1977
and 1977-1978

To be served fiscal 1977-1978



Pennsylvania Intermediate Units

including 252 teachers in ten (10) I.U.'s (See Figure 2). The remaining nine (9) I.U.'s, plus the four (4) being served over a two-year period, will be completed during fiscal year 1977-78.

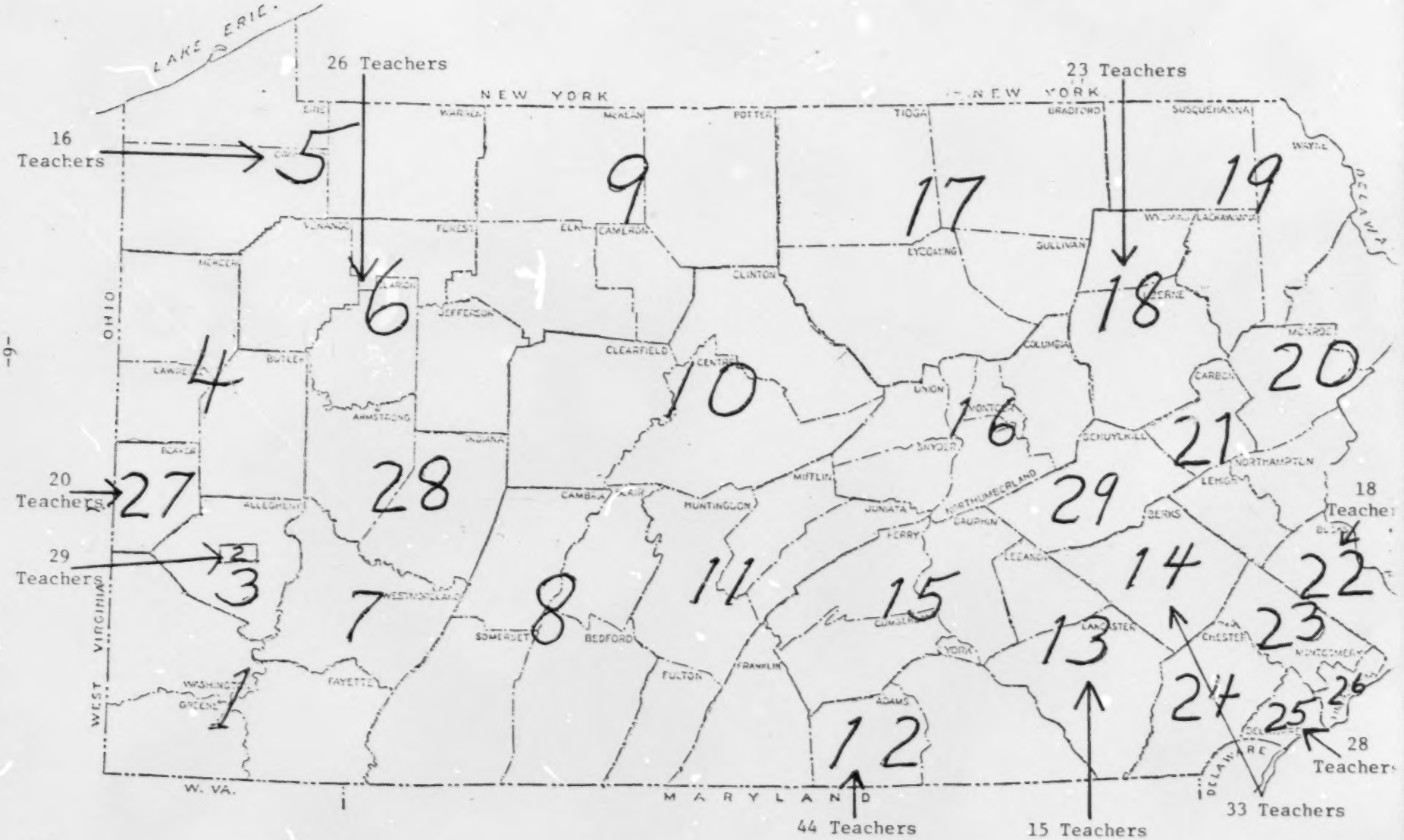
There are currently over 1,500 teachers of the T.M.R. employed in Pennsylvania schools. Although Project T.H.O.R. will not have given the full inservice course to each one, it is expected that about one-half of the elementary teachers and about three-fourths of the secondary teachers will have participated in inservice programs at the completion of fiscal year 1977-78. Because of the large number of potential participants, the large geographic area to be covered and other confounding variables such as teacher's contracts, the scheduling of inservice sessions has been very different in various I.U.'s. Typically, however, the full three credit (45 hour) inservice program has been taken by participants in one of the following models: released time basis, after school and/or Saturday sessions, or full-day sessions combined with one of the two preceding models. The total program has been offered in varying time spaces as short as six (6) weeks and as long as eight (8) months. As noted on the Information Sheet, the project works with all program personnel including supervisors, administrators and ancillary personnel in an attempt to have involvement in the pre/vocational program for T.M.R.'s. The personnel of Project T.H.O.R. have attempted to "standardize" inservice presentations, to insure that similar information will be given to all participants. These presentations or components are organized in the following manner:

Subject Area: World of Work

Time: 3 Hours

Figure 2

Project T.H.O.R. Inservice Participants 1976-77



Total Number of Teachers Served: 252

I. Rationale

This section is designed to give the classroom teacher a brief introduction to the concept of career education. It will deal specifically with the arrangement of jobs through a "cluster" approach and the application of career education concepts to the classroom situation.

II. Relationship to Other Inservice Components

World of Work, with its overview of job cluster areas, specific jobs, entry level skills and classroom activities, relates to the scope and sequence of curriculum, the rocess of normalization, methods of vocational evaluation and appropriate vocational placement of the student.

III. Objectives

A. To introduce teachers to the world of work.

B. Teachers shall have an understanding of job entry skills needed by workers in general.

C. Teachers shall have an understanding of the dress, work habits, etc., required of workers on the job.

D. Teachers will develop lessons in career activities for inclusion into the daily curriculum.

E. Teachers should be able to utilize community agencies and services in the development of career education concepts.

IV. Materials, Equipment, Tools and Work Aids (METWA)

Film "Career Education"

Worksheets: See appendix (not included in this report)

V. Reading List

Peterson, R., Jones, E. - Guide to Jobs for the Mentally Retarded, "A Minimum Personal Characteristics Profile", pps. 54-55, 1964

VI. Presentation

A. Introduction to World of Work

1. Brief overview of job cluster approach and relationship to curriculum

2. Presentation of film "Career Education"

3. Discussion

(Approximate time: 30 minutes)

B. Identification of possible job cluster areas and specific jobs (pass out worksheets at this time; one worksheet for each job cluster area) See METWA.

Instructor's Note: The specific jobs included are possibilities of kinds of employment available to the T.M.R. student and to be adapted to the local area's employment needs. Group participation, discussion, etc., in this area is highly encouraged.

(Approximate time: 30 minutes)

C. Determination of "job entry level skills" for each "job cluster area"

1. Divide into groups to develop one or more job cluster area entry level skills (approximate time 10 - 15 minutes)

2. Later, have each group present their list(s) of entry level skills for cluster area(s). Encourage discussion. (approximate time 15 - 20 minutes)

(Approximate time: 25 - 35 minutes)

D. Developing Classroom Activities

1. Give teachers some examples of relevant classroom activities relating to the cluster areas. Mention the use of Compet,

Curriculum Guide for the T.M.R. ("Duquesne Curriculum Guide"), T.M.R. Pre-Vocational Curriculum for Pittsburgh Schools and/or other curriculum guides. Suggest the utilization of possible pre/vocational activities outside the classroom but within the building. Mention the relevance of field trips.

2. Have teachers break into groups to develop classroom activities relating to each job cluster area. (approximate time 30 minutes)

3. Presentation and discussion of each group's activities (approximate time 30 minutes)

(Approximate time: 60 minutes)

E. 1. Summarization and overview

2. Brief discussion of employment services available to the T.M.R. student:

a. School placement services (if any)

b. M.H./M.R. services

c. A.R.C. Chapter

d. B.V.R.

e. B.E.S.

(Mention that this area is more fully discussed in the "vocational placement" inservice component)

(Approximate time: 15 minutes)

Project Evaluation Component

In addition to selected pre-inservice information compiled on participants by project personnel which includes a questionnaire and competency screening (see Information Sheet page 1), the instructors give each participant a post presentation component competency measure. The partial results of these post test competencies, from three (3) socio/psycho-sexual and four (4) pre/vocational areas, offered to the participants during the period September, 1976 to February, 1977 are given in Figure 3.

In Figure 4, the post test scores of all the participants are examined, using a criterion of 80 percent or more correct. One finds, for example, that Scope and Sequence and Legislation had less than 60 percent of all participants meeting this criterion (51 percent and 58 percent respectively), while Job Placement and Sex Education were above 90 percent (93 percent and 95 percent respectively). Combining the three (3) Socio/Psycho-Sexual components reveals 77 percent of all participant post tests (N=111) met or exceeded the 80 percent criterion, while combining the four (4) pre/vocational components reveals 65 percent of all participant post tests (N=113) met or exceeded the 80 percent criterion. In examining both areas (all seven (7) components), 71 percent of all participant post tests (N=224) met or exceeded the 80 percent compecency criterion. (See Figure 4)

Figure 3

PROJECT T.H.O.R. POST TEST RESULTS 9/76 TO 2/77

	SOCIO/PSYCHO-SEXUAL			PRE/VOCATIONAL				
Scores	Legislation	Normalization	Sex Ed	Scope & Sequence	M.T.M.	Vocational Evaluation	Job Placement	TOTAL SCORES
100 - 99	4	1	5		4	2	9	25
98 - 97		1		2				3
96 - 95		8	4	2	6			20
94 - 93		1		2				3
92 - 91		1	2					3
90 - 89	1	7	1	4	5	9	3	30
88 - 87		5	5	2		1		13
86 - 85	2	11	6	2	1		1	23
84 - 83		2	10	3				15
82 - 81		1	3		1			5
80 - 79		3	1	3	4	7		18
78 - 77		3		4		1		8
76 - 75	1	4	1	1	3		1	11
74 - 73						1		1
72 - 71		1	1	1				3
70 - 69		4		6	3	8		21
68 - 67		1		2				3
66 - 65	3	3		2	1			9
64 - 63				1				1
62 - 61								0
60 - 59								0
58 - 57				1				1
56 - 55		1						1
54 - 53								0
52 - 51								0
50 & Below	1	2	16	1	1	2		7
N=	12	60	39	39	25	31	14	224

Figure 4

Post Test Analysis Using 80% Criterion

Socio/Psycho-Sexual				
	Normalization	Sex Ed	Legislation	3 Components Combined
80% or Above N=	41 (68%)	37 (95%)	7 (58%)	85 (77%)
Below 80% N=	19 (32%)	2 (5%)	5 (42%)	26 (23%)
Total N=	60	39	12	111

Pre/Vocational					
	Scope & Sequence	M.T.M.	Vocational Evaluation	Job Placement	4 Components Combined
80% or Above N=	20 (51%)	21 (72%)	19 (61%)	13 (93%)	73 (65%)
Below 80% N=	19 (49%)	8 (28%)	12 (39%)	1 (7%)	40 (35%)
Total N=	39	29	31	14	113

	All 7 Components
80% or Above N=	158 (71%)
Below 80% N=	66 (29%)
Total N=	224

If, however, 70 percent criterion (or a "C" grade) is used, the following results pertain: all components, with the exception of Legislation, showed 80 percent or more of the participant post tests reaching criterion; in fact, in components Job Placement and Sex Education,

all participant post tests (100 percent) reached criterion (See Figure 5). The percentages for all participants who meet or exceed 70 percent criterion in the Socio/Psycho-Sexual area, the Pre/vocational area, and both areas combined are all the same; 90 percent met or exceeded criterion while 10 percent did not.

Figure 5

Post Test Analysis Using 70% Criterion

Socio/Psycho-Sexual				
	Normalization	Sex Ed	Legislation	3 Components Combined
70% or Above N=	53 (88%)	39(100%)	8 (67%)	100 (90%)
Below 70% N=	7 (12%)	0	4 (33%)	11 (10%)
Total N=	60	39	12	111

Pre/Vocational					
	Scope & Sequence	M.T.M.	Vocational Evaluation	Job Placement	4 Components Combined
70% or Above N=	32 (82%)	27 (93%)	29 (94%)	14 (100%)	102 (90%)
Below 70% N=	7 (18%)	2 (7%)	2 (6%)	0	11 (10%)
Total N=	39	29	31	14	113

	All 7 Components
70% or Above N=	202 (90%)
Below 70% N=	22 (10%)
Total N=	224

These partial results tend to indicate that either some components are much more difficult than others or the post tests are not correctly tapping the competencies offered. More accurate judgement can be made when all post testing has been completed. Then the competency measures will be item analyzed and cross checked with the content covered in the various components for reliability.

The internal evaluation component of Project T.H.O.R. contains, in addition to the previously discussed participant competency measures, two other aspects. The first is an inservice rating instrument and the second is a questionnaire designed to assess changes in participants' attitudes towards pre/vocational and socio/psycho-sexual training for T.M.R.'s, and to assess changes in programming as a result of inservice training. The results of these measures will be available in the final report of Project T.H.O.R.

External evaluation results are available on the first year (fiscal 1975-76) pilot project which served seven (7) I.U.'s. This evaluation was conducted by a group of independent researchers from Northern Illinois University. A mail survey of 134 participants was conducted to answer four (4) basic questions: (1) Did the workshop sessions disseminate information to help the participant in the awareness of community-related skills for the T.M.R.?; (2) Were the workshop topics helpful to the participant in instituting changes in the classroom?; (3) Were the objectives outlined by the project staff carried out in the workshops?; and (4) How effective were the workshop personnel in relation to participant needs?

The following information is abstracted from the results.

Figure 6

Relationship of Survey to Evaluative Questions

Survey Item	Information Gained	Evaluative Question
Items 1 - 5	I.U. No. Years Experience Position % of workshops attend Feelings toward TMR	-Population being dealt with through Project THOR -Demographic information
Item 6	Likert Scaled - types of community jobs available	Did the workshop disseminate information to help the participant in his/her awareness of community related skills for TMR
14	Likert Scaled - gain understanding of industrial and community view of MR	
Item 7	Yes-No Were changes made?	Were the workshops helpful in instituting changes in the classroom environment?
9 10	Yes-No Does your I.U. need changes? Comment.	
11 15	Likert Scaled - awareness of current literatures and techniques, provisior of services	
12	Yes-No Little value budgeting in regard to marketable items	
16 17	Yes-No (Comment) Curricular changes in sex-ed, voc-ed.	
Item 8	Yes-No-N/A Unfamiliar term regarding major topic areas	Were objectives outlined by staff carried out in W.S.?
Item 13	Likert Scaled - sensitivity to needs and demands	Were personnel effective to participants' needs?
18	Yes-No Benefit to other teachers	

Table 1

Question No. 1: Did the workshop disseminate information to help the participant in his/her awareness of community-related skills for the TMR?

Source	No Knowledge	Weak Knowledge	Moderate Knowledge	Strong Knowledge	Very Strong Knowledge
Item No. 6 As a direct result of the workshop, do you feel that you are more knowledgeable of the types of community jobs for the MR?	5.17%	15.51%	44.83%	31.03%	3.45%
Item 14	No Insights	Weak Insights	Moderate Insights	Strong Insights	Very Strong Insights
Has the workshop helped you make significant gains in understanding the community and industrial view of mentally retarded persons?	5.08%	3.39%	45.76%	44.07%	1.69%

Table 2

Question No. 2: Were the workshops helpful to the participant in instituting changes?

Item	% Yes	% No	Other
7. Has the workshop caused significant changes in your classroom, center or I.U.?	66.1	33.9	
9. Does your I.U. need changes in areas covered by workshops?	72.88	22.03	5.08
12. Have you spent <u>less</u> money on marketable items, as a result of the workshop?	31.03	3.45	Little Value 65.52
16. Have changes been made in your curriculum as a result of the workshop in regard to sex education?	33.33	66.69	
17. Has your curriculum been changed in regard to vocational education?	69.49	30.51	
18. Do you feel the workshops would be of benefit to teachers in other I.U.'s?	91.52	8.47	

Table 3

Question No. 3: Were the objectives outlined by the project staff carried out in the workshop?

Source	Yes	No	N/A	Unfamiliar Term
Have workshops been of value to you in promoting or adopting new ideas in:				
ADL Skills, Self-help, Social, etc.	68.42	15.80	3.51	12.28
Avocational/Prevocational Programming	78.95	12.88	8.27	---
Assessment Data Gathering	60.34	27.58	12.07	---
Task and Job Analysis	75.44	10.52	14.35	---
Specific Skills Training	68.96	20.69	8.62	1.72
Environmental Orientation	51.72	37.93	10.34	---
Community Adjustment	56.9	31.03	12.07	---
Sex Education	58.62	24.14	17.24	---

Table 4

Question No. 4: How effective were workshop personnel in relation to the needs of the participant?

	No	Weak	Moderate	Strong	Very Strong
Item 11 Increase awareness of literature and techniques developed for MR	5.17	15.51	44.83	31.03	3.45
Item 13 Is the workshop staff sensitive to the needs and demands of operating an I.U., a classroom on a daily basis?	3.59	10.71	51.78	33.93	--
Item 15 Do you feel that by using the information gained in the workshop you will be better prepared in providing services for the retarded?	--	1.69	16.95	62.71	18.64

It should be noted that 90 percent of the respondents to the mail survey were teachers, one-half of them having five (5) or more years of teaching experience. All questions, as indicated by Tables 1 through 4, were answered positively. In addition, Survey Items 16 and 17 (See Figure 6) elicited comments on curricular changes in pre/vocational education and sex education. The following comments are excerpted from the two survey items.

Comments on changes made in pre/vocational curriculum:

1. "Changed classroom to an almost total pre/vocational workshop. (along with some academics related to vocational)."

2. "Set up a simulated workshop and started a Co-operative Education Program for T.M.R.'s."

3. "Simulated assembly lines."

4. "We are now involved in collating materials that are mailed by local organizations."

5. "Children do timed tasks to earn points which are used to purchase wanted items."

6. "Hired vocational consultant; set up job training class in school."

Comments on changes made in sex education curriculum:

1. "Tried but parents did not go for it."

2. "A more direct approach treating the students at a more mature level."

3. "We started a sex education program where none previously existed."

4. "Presently working with younger T.M.R.'s and intend to use your suggestions to handle this part of curriculum."

5. "Masturbation - I now deal with this problem in a more positive way."

The survey also elicited suggestions or comments on the workshops. Some comments were as follows:

1. "More supervisors should be present so ideas could be carried out in local communities and schools."

2. "This project is great. Too bad it didn't start ten (10) years ago."

3. "Let's get parents involved as well!! They're as hard to convince as the community and/or administrators."

4. "I thought that the sessions on sex education and task analysis were the best. Also, the handouts will be very good for future reference."

5. "I think I would have found the workshop more beneficial had I worked in an I.U. which had a solid pre/vocational and avocational program integrated within the community."

The evaluators summarized the report stating: "the report accurately reflects the opinions of the participants which are subjective in nature. It is the overall feeling...that Project T.H.O.R. has been successful in promoting its objectives and philosophy, but only with continued growth and renovation can it continue to enjoy its success."

Vocational and Career Education for the Handicapped:

Training the Classroom Teacher

Project T.H.O.R.

The Utilization of Jigs in Training Mentally Retarded Students

by

Ronald C. Conant and Paul Sammartino

Paper Presented at

55th Annual International Convention

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Project T.H.O.R.

"The Utilization of Jigs in Training Mentally Retarded Students"

by

Ronald C. Conant and Paul Sammartino

Currently, there is an emphasis on providing relevant education for the mentally retarded. Generally, we can state that the goal is to assist the mentally retarded student in utilizing his potentials in order that he can be integrated into society to the fullest extent possible. To achieve this goal, a major aspect in the education of the mentally retarded student (as well as the "special need" student) is meaningful vocational evaluation and training leading to a saleable skill.

Vocational evaluation and training of the handicapped in sheltered workshops has a long history of proven success. Therefore, if we in the public schools are to meet society's expectations and provide the mentally retarded student with adequate training, it is important that we learn from sheltered workshop practices which have been found successful in training the handicapped.

A technique constantly used by sheltered workshops for more quickly evaluating and training the handicapped, including the mentally retarded, is the utilization of jigs. A jig may be described as: "A device or contrivance which enables a worker to perform a work operation more easily, faster and accurately; (and) may reduce cost of production."*

*Sheltered Workshops, A Handbook, National Association of Sheltered Workshops and Homebound Programs, 1966

While jigs are necessary in sheltered workshops, jigs are invariably used in competitive industry in every imaginable way.

Utilizing a jig on a particular job may serve one or more of the following purposes:

1. Production - A jig often allows the worker to accomplish his task at a much faster rate.

2. Accuracy - By using jigs, minimal worker judgement is required. The result is less spoilage, while production costs are held down.

3. Safety - Jigs are often designed to protect the worker from industrial hazards involved in a particular operation.

4. Simultaneous Motions - Some tasks require the worker to make simultaneous motions. Both hands of the worker can be freed, allowing him to complete the operation rapidly and efficiently by employing a jig.

5. Prosthetic Jig - These jigs are adapted to the handicapped person, who then can perform a particular job.

Following are examples of jigs utilizing the above characteristics. The jigs were developed by the authors in the Vocational Training Program for Trainable Mentally Retarded students at the Conroy Education Center, Pittsburgh Public Schools.

A jig which speeds up production, increases accuracy and improves safety is the hold-down jig on the circular saw. When ripping narrow pieces of wood, the standard guard cannot be utilized since it interferes with the operation. This simple, but very effective, hold-down jig replaces the standard guard, thus enabling the machine operator to perform the task.

In order to perform simultaneous motions in assembling a U-bolt, a jig is concave, allowing the curve in the U-bolt to fit properly, while two (2) pieces of wood run perpendicular to the concave base. These two (2) pieces of wood also hold the two (2) arms of the U-bolt in place. Assembly is then completed with both hands, accurately and quickly.

In order to fold sheets of paper in thirds, a jig was developed which resolved both the problems with production and accuracy. The jig has a flat base with guards on both sides and at the top so that the sheet of paper fits in properly. Where the first fold is to be made, there are indented red lines on both sides of the jig. Thus, the student worker can easily see where to make the first fold. If a student is visually handicapped, the indentations allow the worker to feel where the fold is to be made. The second fold is made at the top guard on the jig. Thus, folding is done accurately and consistently with minimal error.

An example of a prosthetic jig would be a pencil holder for persons who have lost control of their fingers. The jig is designed like a figure "9". On the flat or straight end, a pencil can be placed in adjustable positions. At the curved end, a person can place either his hand or wrist, depending upon the extent of the involvement.

If we are to provide worthwhile vocational training to the mentally retarded student in a safe, efficient setting, jigs then hold many possibilities for us.

In addition to the important applications noted above, jigs require a task analysis approach. Jobs must be task analyzed, step by step, if we are to devise an appropriate and useful jig. Once we have designed the jig, we then have our method of operation. With this systematic approach, teaching the student becomes both easier and more efficient as we can quickly determine his progress, or lack of progress, on respective jobs.